large quantity for decentralised power generation in rural areas has been built at Jalkheri near Patiala, Punjab. The plant was test fired upto 8.8 MW. The plant with indigenously developed equipment is undergoing further endurance trials. The project envisages utilising about 70,000 tonnes of surplus rice straw per annum and generate about 10 MW power. On successful operation of this pilot plant, the technology could be adopted to formulate long term plan for utilisation of surplus rice straw for power generation and cogeneration.

A pilot project of development of cogeneration technology in MRK (Sethiathope) and Cheyyar Cooperative Sugar Mills, Tamil Nadu have been taken up. The project envisaged installation of higher pressure and higher-efficiency boiler and turbo alternator (3×2.5 MW) for efficient utilisation of bagasse to produce about 4 MW of surplus power for export to grid. The project at MRK Cooperative Sugar Mills has been commissioned in June, 1992. The plant at Cheyyar Cooperative Sugar Mills, Tamil Nadu is under advance stages of installation and one turbo set feeding the internal power requirement of mill is already commissioned .

अलीगढ़ जिले में सौर ऊर्जा संयंत्र का निर्माण

700. **श्री शांति त्यागी** : क्या प्रधान मंत्री यह बताने की कृपा करेंगे कि :

(क) क्या यह सच है कि उत्तर प्रदेश के अलीगढ़ जिले में केन्द्रीय सहायता से सौर ऊर्जा से बिजली उत्पादन करने वाला संयंत्र निर्माणाधीन है;

(ख) यदि हां, तो इसकी विद्युत उत्पादन क्षमता क्या होगी और इसके कब तक पूरा हो जाने की संभावना है; और

(ग) क्या उत्तर प्रदेश में किसी अन्य सौर ऊर्जा संयंत्र को सहायता देने का कोई प्रस्ताव केन्द्रीय सरकार के विचाराधीन है ?

योजना और कार्यक्रम कार्यान्वयन मंत्रालय के राज्य मंत्री और गैर-पारम्परिक ऊर्जा स्रोत मंत्रालय में राज्य मंत्री (श्री सुख राम) : (क) जी, हां ।

(ख) अलीगढ़ जिले में सौर प्रकाश वोल्टीय विद्युत संयंत्र की क्षमता 100 किलोवाट है। यह संयंत्र जनवरी, 1993 से चालू किए जाने की संभावना है ।

(ग) केन्द्रीय सरकार की सहायता से इसी प्रकार की क्षमता का एक दूसरा संयंत्र भी उत्तर प्रदेश में स्थापित किया जा रहा है । सौर प्रकाश वोल्टीय विद्युत संयंत्रों के लिए सहायता हेतु उत्तर प्रदेश सरकार से कोई अन्य विशिष्ट प्रस्ताव प्राप्त नहीं हुए हैं ।

Scheme for Harnessing Solar Energy

701. **SHRIMATI VEENA VERMA :**
SHRI MURLIDHAR CHANDRAKANT BHANDARE :

Will the PRIME MINISTER be pleased to state :

(a) whether any scheme has been received from the Government of Madhya Pradesh, Maharashtra, Gujarat and other States and Union Territories for harnessing solar energy to the optimum level both through solar thermal and photo voltaic systems during this year; and

(b) if so, the details thereof, indicating State-wise the total energy to be harnessed thereby, alongwith the modes of utilisation thereof ?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM) : (a) and (b) The Government is implementing Solar Thermal and Photovoltaic Programmes for demonstration and utilisation of solar energy in the country including Madhya Pradesh, Maharashtra and Gujarat. Low grade solar thermal devices and solar cookers are being made available to the users under the Extension Programme with central subsidy. Photovoltaic systems are being installed in unelectrified and remote villages under the demonstration programme. These programmes are being implemented through the State Nodal Agencies and/or Electricity Boards in their respective States.

The Solar Thermal Extension Programme and Solar Cooker Programme are drawn on an annual basis giving the State Nodal Agencies the physical targets and financial allocation for the subsidy. The State-wise targets for the year 1992-93 for these programme are given in Statement I and II respectively (*See* below) The Government meets the costs of photovoltaic module for photovoltaic system to be installed by State Agencies. A request for providing photovoltaic modules of 1265 KW for the installation of PV systems has been received from the States for the current year. A Statement giving these requests given is in Statement III. (*See* below).

Solar Thermal devices are used to meet the heat energy requirements including cooking, whereas PV systems are being used mainly for lighting, water pumping, television, communication and small power plants in rural areas.

Statement—I

Statewise Tentative Financial & Physical Targets under Step 1992-93

(a) Head : B. 2(1)(4) Funds allocated to Solar Thermal Division under this Head : Rs. 616 lakhs

Sl. No.	State/Union Territory	Allocation for the year 1992-93 (Rs. in lakhs)	Physical Targets (collector area m^2)
1.	Andhra Pradesh	20	1830
2.	Bihar	20	1830
3.	Chandigarh	10	915
4.	Delhi	28	2560
5.	Gujarat	78	7135
6.	Haryana	16	1465
7.	Himachal Pradesh	16	1465
8.	Jammu & Kashmir	13	1195
9.	Karnataka	36	3265
10.	Kerala	12	1095
11.	Madhya Pradesh	76	6950
12.	Maharashtra	78	7135
13.	Meghalaya	7	645
14.	Orissa	7	645
15.	Punjab	35	3200
16.	Pondicherry	7	645
17.	Rajasthan	35	3200
18.	Tamil Nadu	32	2925
19.	Uttar Pradesh	78	7135
20.	Others	12	1090
	TOTAL :	616	56355

B. C.2(4) : Statewise allocation under the Head : C2(4)
Total funds available under this Head : Rs. 33.0 lakhs.

1.	Assam	4	365
2.	Arunachal Pradesh	4	365
3.	Goa	4	365
4.	Manipur	4	365
5.	Mizoram	3	275
6	Nagaland	2	180
7.	Sikkim	3	275
8	Tripura	2	180
9	West Bengal	7	640
	TOTAL :	33	3010

C. D.2(4) Union Territory wise allocation under the Head : D2(4)
Total funds available under this Head : 7.0 lakhs

Sl. No.	State/Union Territory	Allocation for the year 1992-93 (Rs. in lakhs)	Physical Targets (collector area m^2)
1.	Andaman & Nicobar Island . . .	3	275
2.	Dadra & Nagar Haveli	2	180
3.	Lakshadweep	2	180
	TOTAL :	7	635

Statement—II

Solar Cooker Physical Allocations

Sl No.	State/Agency		Allocation for 1992-93	
			Physical	Financial (Rs.)
1	2		3	4
1.	Andhra Pradesh (NEDCAP)	FSC	1000	1,50,000
2.	Assam (Assam Coop. Mkt. Federation Ltd)	FSC	50	7,500
3.	Bihar (BREDA)	FSC	200	30,000
4.	Delhi (DEDA)	FSC	2000	3,00,000
5.	Gujarat (GEDA)	FSC	4000	6,00,000
6.	Himachal Pradesh (HIMURJA)	FSC	3000	4,50,000
7.	Haryana (HSCST)	FSC	3000	4,50,000
8.	Jammu & Kashmir	FSC	700	1,05,000
9.	Kerala (ANERT)	FSC	550	82,500
10.	Karnataka (KSCST)	FSC	550	82,500
11.	Madhya Pradesh (MPUVN)	FSC	8000	12,00,000
12.	Maharashtra (MEDA)	FSC	3500	5,25,000
13.	Orissa (OREDA)	FSC	400	60,000
14.	Punjab (PAIC)	FSC	3000	4,50,000
15.	Rajasthan (RSAIC)	FSC	3500	5,25,000
16.	Tamil Nadu (TEDA)	FSC	1000	1,50,000
17.	Uttar Pradesh (NEDA)	FSC	4000	6,00,000
18.	West Bengal	FSC	700	1,05,000
19.	Manipur	FSC	50	7,500
20.	Meghalaya (MREDA)	FSC	100	15,000
21.	Nagaland	FSC	50	7,500

1	2		3	4
22.	Tripura	FSC	50	7,500
23.	Andaman & Nicobar Islands	FSC	50	7,500
24.	Arunachal Pradesh	FSC	50	7,500
25.	Dadar & Nagar Haveli	FSC	50	7,500
26.	Goa (RDA)	FSC	200	30,000
27.	Chandigarh (DIC)	FSC	50	7,500
28.	Lakshadweep	FSC	50	7,500
29.	Pondicherry (DRDA)	FSC	50	7,500
30.	Mizoram	FSC	50	7,500
31.	Sikkim	FSC	50	7,500
		TOTAL	40,000	60,00,000

Statement—III

SPV Systems requisition for the year 1992-93 *State-wise*

S. No.	State/UTs.	PROPOSALS (No. of systems)						
		SLS	CLS	CTV	DLS	SL	WPS	SPP KW
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh NEDCAP	50	40	40	100	1000	30	50
2.	Arunachal Pradesh	000	—	1	43	325	—	8
3.	Assam ASTEC	6	4	4	20	30	—	1
4.	Bihar BREDA	75	—	—	200	1500	15	7.5
5.	Goa	6	4	4	20	30	—	1
6.	Haryana HSC&T	106	—	4	2	797	—	2
7.	Himachal Pradesh HIMURJA	23	—	—	200	700	15	—
8.	Jammu & Kashmir J&KEDA, S&TD	40	10	2	400	500	2	6
9.	Karnataka KSCS&T	—	—	5	2	—	10	2.5
10.	Kerala ANERT	100	—	17	450	200	2	2
11.	Madhya Pradesh MPUVN	200	—	—	—	400	5	5
	MPEB	1000	—	—	—	—	—	10
12.	Maharashtra MEDA	—	—	—	—	1500	1	18
13.	Manipur DST&E	—	—	—	—	550	8	4

1	2	3	4	5	6	7	8	9
14.	Meghalaya MNREDA . . .	—	—	—	—	200	—	10
15.	Mizoram P & ED . . .	53	—	2	142	50	—	—
16.	Orissa OREDA .	300	10	40	150	100	15	8
17.	Punjab PEDA . . .	50	—	5	20	300	12	10
18.	Rajasthan REDA . . .	104	—	13	—	—	—	—
19.	Tamilnadu TEDA . . .	—	—	—	—	—	—	—
	TNEB . . .	180	—	—	—	—	—	—
20.	Tripura DST	—	30	25	30	200	28	—
21.	Uttar Pradesh NEDA .	—	—	—	15000	5000	50	50
22.	West Bengal DSTWB . . .	100	—	16	—	600	40	5
23.	A & N Islands . .	—	10	—	—	—	5	—
24.	Chandigarh PEDA . . .	20	—	2	5	—	—	
	TOTAL :	2721	108	180	16784	13982	238	200
	TOTAL KWS :	190	23	38	587	140	87	200
	G. TOTAL KWS :			1265 KWp				

SLS — Street Lighting Systems (70 Watt)
CLS — Community Lighting Systems (210 Watt)
CTV — Community Television/Lighting Systems (210 Watt)
DLS — Domestic Lighting Systems (35 Watt)
WPS — Photovoltaic Water Pumping Systems (360 Watt)
SL — Solar Photovoltaic Lantern (10 Watt)
SPP — Small Photovoltaic Power Plants (in KW capacity).

Non-conventional Energy Generation in Uttar Pradesh

702. DR. NAUNIHAL SINGH :
SHRI RAM RATAN RAM :

Will the PRIME MINISTER be pleased to state :

(a) what is the total amount of energy generated in Uttar Pradesh from Non-Conventional Sources during the last three years;

(b) which is the Non-Conventional energy Scheme being run in Mirzapur District of Uttar Pradesh; and

(c) what are the future Non-Conventional energy projects in hand under this scheme with the Government of India ?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM) : (a) Approximately 14.75 lakh KWH energy has been generated in Uttar Pradesh from Non-Conventional Energy Sources during the last three years.

(b) The operational schemes in Mirzapur district of Uttar Pradesh are as follows :—

(i) Biogas plant, Solar Water Heaters, Domestic Lights, Solar Cookers, Wind Pumps and Improved Chulhas are being implemented under the